

## **REMARKS**

### **STATUS OF THE CLAIMS**

Claims 55, 57-61, and 63-64 were pending in this application. Claim 55, 57, 61, 63, and 65 are amended herein. New claim 89 has been added. Following entry of the amendments claims 55, 57-61, and 63-64 and 89 will be pending and at issue.

### **SUPPORT FOR AMENDMENTS TO THE CLAIMS**

Claim 55 has been amended to recite “wherein the T1R3 polypeptide has at least 93% amino acid sequence identity to SEQ ID NO: 20 or at least 94% amino acid sequence identity to SEQ ID NO:23;” claim 61 has been amended in a similar manner. Support for the amendment can be found throughout the specification as filed, e.g., page 15, lines 22-30.

Claims 55, 57, 61, 63, and 65 have been amended to delete reference to SEQ ID NOS corresponding to rat sequences, e.g., to refer to mouse sequence only. New claim 89 has been amended to recite one embodiment of the invention, e.g., a sweet taste T1R3/T1R2 receptor having the disclosed mouse sequences. Support can be found throughout the specification as filed.

The amendments to the claims therefore add no new matter and entry is respectfully requested.

### **ELECTION/RESTRICTION REQUIREMENT**

In the Office Action, the Examiner regrouped the claims of Group I and II into a single group, and acknowledged Applicant’s election of SEQ ID NO:20 (mouse T1R3) and SEQ ID NO:8 (mouse T1R2).

### **THE DRAWINGS**

Applicant notes the Examiner’s acceptance of the drawings submitted on August 22, 2003.

### **IDS**

Applicant notes with appreciation the Examiner’s thorough consideration of the references cited in the IDS (PTO/SB/08A) submitted on 08/22/03 and 06/14/06 and 10/04/06.

**REJECTIONS UNDER 35 U.S.C. § 102**

Claims 55, 57-61, 63-65 were rejected under 35 U.S.C. 102(e) as allegedly anticipated by U.S. Patent Publication 20030232407, claims 21 and 27, published December 18, 2003 to Zoller et al. Applicant traverses this ground of rejection as drawn to the amended claims.

The Examiner stated that

Zoller claim a sweet taste receptor comprising a heterodimers of T1R2 and T1R3, such receptors being of mouse, rat, and human origin. The rT1R2 disclosed by Zoller is 100% identical to the instant SEQ ID NO: 7, the rT1R3 disclosed by Zoller is 100% identical to the instant SEQ ID NO: 25. The rT1R3 is 92% and 93% identical to the instant murine SEQ ID NO: 20 and 23, respectively. Additionally, the instant claims 59 and 60 make the distinction between non-covalent and covalently linked heterodimers. The instant specification does not indicate what the default state of the heterodimers would be when expressed in a cell, only that they could be either non-covalently or covalently linked, see page 11. Thus it is assumed that it is an inherent property of the expressed heterodimers that they would be either non-covalently or covalently linked, i.e. a mixture of both states, and thus the claims of the Zoller publication read on both claims 59 and 61.

**The rat T1R3 sequence is not found in the provisional application that predates the instant application's priority date.**

A disclosure of rat T1R3 sequence is not supported in the provisional application to which the Zoller application claims priority and which predates the priority date of the instant application. The examiner has not carried the initial burden of showing that Zoller is available as a prior art reference – a necessary element to the examiner's prima facie case of unpatentability.

Zoller was filed after the instant application, but claims the benefit of eight (8) provisional applications. Only one of the Zoller provisional applications, application number 60/300,434 (filed June 26, 2001) was filed before the priority date of the instant application, July 3, 2001. In citing Zoller, therefore, the examiner has to assume Zoller is entitled to an earlier effective date due to its benefit claim. But before the examiner can accord Zoller that earlier effective date, two requirements must be met:

First, the examiner must show that the subject matter relied on in the rejection is also found in the earlier provisional application. A patent that claims the benefit of a provisional

application may be accorded the earlier filing date as its effective date under 35 U.S.C. § 102(e) only if the subject matter used to make the rejection is appropriately supported in that provisional application. In re Lund, 376 F.2d 982, 987-88 (C.C.P.A. 1967) (refusing to apply disclosure that was not carried forward from parent application); see also MPEP 706.02(f)(1) (instructing examiner, when determining the effective date of a reference, to consider benefit claims to prior applications under 35 U.S.C. 119(e) or 120 “if the prior application(s) properly supports the subject matter used to make the rejection”).

Second, the examiner must show that Zoller’s claims are supported under 35 U.S.C. § 112 by the provisional application. As the courts have explained:

If . . . the PTO wishes to utilize against an applicant a part of that patent disclosure found in an application filed earlier than the date of the application which became the patent, it must demonstrate that the earlier-filed application contains . . . support for the invention claimed in the reference patent. For if a patent could not theoretically have issued the day the application was filed, it is not entitled to be used against another as ‘secret prior art’ . . . .

In re Wertheim, 646 F.2d 527, 537 (C.C.P.A. 1981); see also MPEP 2136.03. To establish a prima facie case of unpatentability, therefore, the examiner must show (1) that all of the subject matter relied on in the rejection is also found in the provisional application, and (2) that Zoller’s claims are supported by the earlier provisional application. Because the examiner has not carried this initial burden, Zoller cannot be treated as prior art under 35 U.S.C. § 102(e).

Should the examiner maintain this rejection based on Zoller, Applicant requests that the Examiner identify the subject matter in the provisional application - not the published application - that the examiner asserts discloses the claimed invention. 37 C.F.R. § 1.104(c) (requiring the pertinence of each reference to be clearly explained). Moreover, the rejection must contain specific findings explaining that Zoller is supported by the provisional application, as required by Wertheim.

**US provisional patent application number 60/284,547**

Applicant notes that a similar rejection was made in co-pending and co-owned application number 09/927,315. Applicant responded in a similar manner, requesting clarification of support for the subject matter in the provisional. In an Advisory Action, the

Examiner cited US provisional patent application number 60/284,547 as including the rat T1R3 sequence. However, US provisional patent application number 60/284,547 is not included in the priority claim of Zoller as listed on the front of the published application or as described in the specification or as listed in PAIR. In addition, US provisional patent application 60/284,547 was filed more than one year before the priority date of the Zoller application. Finally, US provisional patent application 60/284,547 is not referred to nor incorporated by reference in the priority document application number 60/300,434 (filed June 26, 2001). If the Examiner decides to maintain the rejection in citing Zoller, Applicant requests clarification as to how Zoller is entitled to the priority claim of and/or entitled to incorporate material disclosed in US provisional patent application number 60/284,547.

**Applicant has amended the claims**

However, without agreeing with the Examiner but rather to further prosecution, Applicant has amended to claims to delete reference to the rat T1R3 sequence, and change the percent identity that refer to the mouse sequences so that the claimed sequences do not read on the rat T1R3 sequences. Zoller does not include the element of “wherein the T1R3 polypeptide has at least 93% amino acid sequence identity to SEQ ID NO: 20 or at least 94% amino acid sequence identity to a SEQ ID NO:23.” The Examiner stated that “The rT1R3 is 92% and 93% identical to the instant murine SEQ ID NO: 20 and 23, respectively.”

Accordingly, the reference does not teach each and every element of the claimed invention and cannot anticipate the claimed invention. Withdrawal of this rejection is requested.

**REJECTIONS UNDER 35 U.S.C. § 103**

Claims 61 and 63 were rejected under 35 U.S.C. 103(a) as allegedly obvious over 20030232407 to Zoller et al. as set forth above regarding claims 55, 57-61, 63-65 and in view of U.S. Patent No: 6383778. Applicant traverses this ground of rejection.

The Examiner stated that

Claims 61 and 63 are anticipated by claims 21 and 27 of Zoller, as set forth above, yet claims 61 and 63 also encompass embodiments that utilize the murine T1R2 as defined by SEQ ID NO: 8. Zoller does not describe a murine T1R2 having the sequence of SEQ ID NO: 8. U.S. Patent No: 6383778 discloses the

murine T1R2 having the sequence of SEQ ID NO: 8 (mouse GPCR4). Therefore, one of ordinary skill in the art, at the time the invention was made, and with reasonable expectation of success, would be motivated to use the murine T1R2 disclosed by U.S. Patent No: 6383778 when practicing the methods of Zoller. The motivation to do so was provided by Zoller, e.g. claim 27, who teach that variants of the murine T1R2 are encompassed by the claimed invention

Zoller is deficient as described above. First, the rat T1R3 sequence found in the published Zoller application is not disclosed in the Zoller provisional application that predates the priority date of the instant application. In addition, Zoller does not include the element of “wherein the T1R3 polypeptide has at least 93% amino acid sequence identity to SEQ ID NO: 20 or at least 94% amino acid sequence identity to a SEQ ID NO:23.”

Finally, US Patent No. 6383778 to Zuker constitutes prior art only under 35 U.S.C. 103(e) and should be disqualified under 35 U.S.C. 103(c) as prior art in this rejection under 35 U.S.C. 103(a) because the subject matter which would otherwise be prior art to the claimed invention and the claimed invention are subject to an obligation of assignment to the same organization, at the time the claimed invention was made. Accordingly, the rejection should be withdrawn.

#### **STATEMENT PROVIDING EVIDENCE TO ESTABLISH AN OBLIGATION FOR ASSIGNMENT TO THE SAME ORGANIZATION**

The invention of all pending claims of Application 10/645,441 and Patent 6383778 were, at the time the invention of all pending claims of Application 10/645,441 was made, both owned by The Regents of the University of California.

#### **STATEMENT OF SUBSTANCE OF INTERVIEW**

Applicant thanks the Examiner for his time during telephone interview on Tuesday, April 10, 2007 and Tuesday, April 17, 2007. Present for the interview were Examiner Brannock and Applicant's representative, Patent Agent Susan Hubl. No exhibits or demonstrations were presented or discussed. During the interview, all claims were discussed.

Patent Agent Hubl faxed a set of proposed claim amendments that might overcome the pending rejections. Examiner Brannock indicated that he would consider the amendments. In addition, Examiner Brannock noted the following:

1) the language regarding “is encoded by a nucleotide sequence that has at least 90% sequence identity to a nucleotide sequence encoding an amino acid sequence of SEQ ID NO: 20, 23, or 25” was different from that of method claims in co-pending application number 09/927,315 and that the search had been performed on the amino acid sequences only; that a new search would be requested; Susan Hubl indicated that the claims could be amended accordingly. On April 17, Examiner Brannock confirmed that he could not search on claims that recited “a nucleotide sequence encoding an amino acid sequence.”

2) he would look further into the Zoller provisional patent application issue, especially in regards to US provisional patent application number 60/284,547; on April 17, Examiner Brannock indicated that he had emailed the Interference Board to clarify the issue but noted that provisional application number 60/284,547 could be used to illustrate an “apparent constructive reduction to practice;” and

3) suggested modified language regarding the STATEMENT PROVIDING EVIDENCE TO ESTABLISH AN OBLIGATION FOR ASSIGNMENT TO THE SAME ORGANIZATION so as to refer to the claimed invention specifically.

## CONCLUSION

Withdrawal of the pending rejections and reconsideration of the claims are respectfully requested, and a notice of allowance is earnestly solicited. If the Examiner has any questions concerning this Response, the Examiner is invited to telephone Applicant's representative at (415) 875-2316.

Respectfully submitted,  
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